

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-19 and 21-22 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

Entry of the Amendment

It is respectfully requested that the present amendment should be entered into the official file in view of the fact that the amendments to the claims automatically place the application in condition for allowance. Alternatively, it is respectfully requested that the present amendment should be entered for the purposes of appeal. The amendments reduce the number of claims by 1 and further help to define the invention by the addition of a single phrase in each of claims 1 and 10. Accordingly, entry of this amendment is respectfully requested.

Citation of Reference

Applicants again point out that the Shirochi reference (U.S. Patent No. 6,075,581) has still not yet been properly cited on the PTO-892 Form. Applicants request a second time that the Examiner properly cite this reference so that it will be properly listed on the issued patent.

Rejection under 35 U.S.C. § 103

Claims 1 and 3-9 stand rejected under 35 U.S.C. § 103 as being obvious over Nakashima et al. (U.S. Patent No. 6,141,123) in view of Shirochi (U.S. Patent No. 6,075,581). This rejection is respectfully traversed.

The Examiner primarily relies on the Nakashima et al. reference, and particularly Fig. 12, to show a substrate 219 (more properly substrate 211), resin layer 210, forming a hologram pattern in the resin layer where forming includes locating a hologram plate on the resin layer and pressing to form a hologram pattern.

Applicants disagree with the Examiner's understanding of the Nakashima et al. reference. While layer 210 is formed on substrate 211 and these are brought into contact with the hologram pattern 213, pressing to form a hologram pattern is not included in this reference. As stated in column 16, line 48, the layer is affixed to the photographed original 213 by roller 229. However, the forming of the picture is done photographically as described in column 16, lines 53-55. There is no pressing to form a hologram pattern, but instead, roller 229 only is used to affix the layer to the photographed original 213. Thus, this is not a pressing process but a photographing process. The Examiner states that the Nakashima et

al. process further includes a step of carrying the resin layer, but refers to column 18. This involves a different embodiment shown in Fig. 17, rather than Figs. 12 and 13. Accordingly, Applicants submit that Nakashima et al. does not teach the pressing arrangement which is discussed in claim 1.

The Examiner admits also that Nakashima et al. does not show a smoothing layer, but relies on Shirochi to show the smoothing layer. Applicants submit that a smoothing layer is not necessary in Nakashima et al. since it is shown as a smooth layer itself. Further, it is not seen that there would be any motivation to utilize a smoothing layer in the Nakashima et al. system.

Furthermore, claim 1 has now been amended to point out that the hologram layer is used to uniformly diffuse light in all orientations. This is not seen in any fashion by either of the references. In Shirochi, the diffraction grating is arranged to diffuse light into three separate pixels in the X direction. Clearly, this does not uniformly distribute the light. Nakashima et al. similarly does not discuss the uniform distribution of light. Accordingly, Applicants submit that claim 1 is allowable since these features are not shown in either of the references and would not be obvious thereover.

Claims 2-9 depend from claim 1 and as such are also considered to be allowable. These claims includes additional limitations not

seen in the reference as well, especially claim 3 which includes the pressing of the pattern in the resin layer. Accordingly, these claims are considered to be additionally allowable.

Claims 2, 10-14 and 17-22 stand rejected under 35 U.S.C. §103 as being obvious over Shirochi in view of Nakashima et al. This rejection is respectfully traversed.

First, Applicants note that claim 2 has been included with this rejection rather than the earlier rejection. This is not understood since claim 2 depends from claim 1.

The Examiner states that Shirochi teaches a display including a lower polarizer, a lower substrate, switching devices, a crystal layer, color filter layer, upper substrate, upper polarizer, diffraction grating and smoothing layer. The Examiner admits that this reference does not show the use of a hologram diffuser.

Applicants submit that Shirochi also lacks other features of the invention. The Examiner has stated that the switching devices are arranged in the matrix of the substrate and that a color filter layer is formed in the liquid crystal layer. First, reference numeral 18 is not seen in any of the figures in this patent. Secondly, the description in column 18 only describes that the electrodes and color filters are disposed in the liquid crystal layer 21. Their specific arrangement is not described.

Also, Applicants have amended claim 10 to point out that the hologram layer uniformly diffuses the light in all orientations. This is clearly different from the teachings of Shirochi where the light is diffused into three pixels in the horizontal direction only. Accordingly, Applicants submit that Shirochi et al. does not show the present claimed invention for several reasons.

The Examiner relies on the Nakashima et al. reference to show the use of a hologram layer. The Examiner feels it would have been obvious to use the teachings of Nakashima et al. to substitute the diffraction grating of Shirochi with a hologram diffuser is taught in Nakashima et al. However, it is clear that Shirochi. Clearly desires a specific arrangement of light diffusion in the X direction. The use of the hologram diffuser would not be obvious due to the specific pattern of diffusion which is desired.

Furthermore, the use of a smoothing layer is not taught in either reference. In Shirochi an adhesive is used to connect the diffraction grating with a glass sheet. However, this is never described as a smoothing layer, and it is not described as providing the activation of light beam diffusion as described in the claim. For these reasons, Applicants submit that claim 10 is allowable.

It should also be noted that Applicants have corrected claim 10 to describe a smoothing film as being provided at the lower

portion of the hologram layer. This is in keeping with the drawings and description of the specification. This change has not been accomplished in regard to the method claims since those claims uniformly refer to the arrangement shown in Fig. 3 while the process is proceeding.

Claims 11, 19, 21, and 22 depend from claim 10 and as such are also considered to be allowable. In addition, these claims recite other features of the invention which makes these claims additionally allowable.

Claims 15 and 16 stand rejected under 35 U.S.C. §103 as being obvious over Shirochi in view of Nakashima et al. and further in view of Abileah et al. (U.S. Patent No. 5,629,784). This rejection is respectfully traversed.

The Examiner cited the Abileah reference to show a twisted nematic liquid crystal display. The Examiner believes it would have been obvious to use this type of display in conjunction with the other references. However, even if this reference does teach this feature, it does not aid the other two references in overcoming their deficiencies as noted above. Accordingly, the claims are believed to define over this three-way combination of references.

Conclusion

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner either alone, or in combination. In view of this, reconsideration of the rejections and allowance of all the claims are respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert F. Gnuse (Reg. No. 27,295) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP


By 

Joseph A. Kolasch, #22,463

P.O. Box 747

Falls Church, VA 22040-0747

(703) 205-8000

 JAK/RFG/mls
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